NC/QC/YPD/2018-19/BO-C1 Date: 07-01-2019

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Construction of Shelter and Power Connection for Shredder in BWSSB Office Opposite.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramamurthy. N, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand : PRIYA
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**171 min**	Shall not be less than 30 min
2	Final setting time	**284 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.29 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.17 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	**28.48 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/YPD/2018-19/BO-PCC1 Date: 07-01-2019

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Construction of Shelter and Power Connection for Shredder in BWSSB Office Opposite.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramamurthy. N, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	**100.00**	85-100	90 – 100
20mm	**95.30**	0 -20	30- 70
10mm	**19.75**	0 -5	10- 35
4.75mm	**6.95**	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	**97.35**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**82.10**	60-95	75-100	85-100	
01.18	**75.40**	30-70	55-90	75-100	
600.mic	**53.95**	15-34	35-59	60-79	
300.mic	**18.30**	5-20	8-30	12-40	
150.mic	**5.90**	0-10	0-10	0-10	

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NC/QC/YPD/2018-19/BO-C2

Date: 16-01-2019

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Construction of Shelter and Power Connection for Shredder in BWSSB Office Opposite.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramamurthy. N, Bangalore.

Asst. Executive Engineer, Project Division, Yelahanka, BBMP

PHYSICAL TESTS ON CEMENT

Brand : PRIYA
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**161 min**	Shall not be less than 30 min
2	Final setting time	**278 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**1.97 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.16 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	**28.71 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/YPD/2018-19/BO--FA1 **Date: 16-01-2019**

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.
{Project*: Construction of Shelter and Power Connection for Shredder in BWSSB Office Opposite.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramamurthy. N, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	**95.80**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**82.95**	60-95	75-100	85-100	
01.18	**74.25**	30-70	55-90	75-100	
600. mic	**53.10**	15.34	35-59	60-79	
300.mic	**22.40**	5-20	8-30	12-40	
150.mic	**6.70**	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	**Requirements** as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	**16.91 %**	-----
2	Silt Content	----	**0.64 %**	Not more than 8%
3	Specific Gravity	----	**2.61**	-------

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NC/QC/YPD/2018-19/BO-CA1 **Date: 16-01-2019**

1. TESTING OF COARSE AGGREGATES (20 mm):

Sub: Testing of Construction Materials.
{Project*: Construction of Shelter and Power Connection for Shredder in BWSSB Office Opposite.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramamurthy. N, Bangalore.

Table- 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	**100.00**	100.00	100.00
20 mm	**96.75**	85-100	90 - 100
10 mm	**43.10**	0 - 20	25 - 55
4.75 mm	**3.55**	0 - 5	0 - 10

TABLE 1. 2 :

SL No	Test conducted	Results	**Requirements** as per IS:383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	**22.71 %**	Not to exceed 25 %
2.	Crushing value	**25.43 %**	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

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NC/QC/YPD/2018-19/BO-SSM1

Date: 16-01-2019

1. TESTING OF STONE SAMPLE :

Sub: Testing of Size stone.
{Project*: Construction of Shelter and Power Connection for Shredder in BWSSB Office Opposite.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramamurthy. N, Bangalore.
Technical Reference: IS 1121(Part 1) -1974 (R.A on 1998)

Asst. Executive Engineer
Project Div.
Yelahanka Zone
Bangalore

Table 1.1 :

SL No	Details of Tests	Observed Value	Normal Values
01	Compressive Strength	**1357.00** Kg/ Sqcm	Not less than 1000.00 Kg/Sqcm
02	Water absorption,%	**0.38 %**	Not more than 2.0 %

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NC/QC/YPD/2018-19/BO-S1 **Date: 18-01-2019**

1. TEST REPORT ON REINFORCEMENT STEEL:

Sub: Testing of Reinforcement Steel of diameter 10 and 12 mm **TMT Steel.**
{Project*: Construction of Shelter and Power Connection for Shredder in BWSSB Office Opposite.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramamurthy. N, Bangalore.

TABLE – 1

SL No	Details	For 10 mm		For 12 mm	
		Test Results	Min Req. as per IS 1786-2008	**Test Results**	Min Req. as per IS 1786-2008
01	Observed diameter of bar	**10.0 mm**	10.0 mm	**12.0 mm**	12.0 mm
02	Observed Wt/m Length **Kg/m**	**0.613**	0.567	**0.895**	0.834
03	Proof stress/Yield stress, fy , **N/mm^2**	**529.0**	500.0	**536.0**	500.0
04	Bend/ Re bend Test	**Ok**	---	**Ok**	---
05	Percentage of Elongation, %	**21.90**	12.00	**21.40**	12.00
06	Ultimate Tensile Strength **N/mm^2**	**643.0**	545.0	**636.0**	545.0

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NC/QC/YPD/2018-19/BO-CB1

Date: 28-01-2019

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Construction of Shelter and Power Connection for Shredder in BWSSB Office Opposite.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramamurthy. N, Bangalore.

Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	21-01-19	28-01-19	08	22500	370	16.44	**16.74**
	002	"	"	"	"	385	17.11	
	003	"	"	"	"	375	16.67	

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NC/QC/YPD/2018-19/BO-CB1A

Date: 18-02-2019

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Construction of Shelter and Power Connection for Shredder in BWSSB Office Opposite.}
Ref.: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramamurthy. N, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	21-01-19	18-02-19	28	22500	510	22.67	**22.30**
	002	‘’	“	‘’	“	495	22.00	
	003	‘’	“	‘’	“	500	22.22	

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